

Work Order ID 135259

Friday, August 07, 2015 3:31:38 PM

135259

Ship Aug 17

U/R

ACCEPTABLE TO SHIP A.P. 15-08-10 Page 1

Item ID: D119-646-043
 Revision ID: U/R - URF15-560
 Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
 Start Date: 8/10/15 Start Qty: 1.00
 Required Date: 8/17/15 Req'd Qty: 1.00

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: [Signature] Date: 8-8-7 Tooling: [Signature] Date:
 QC: Date: SPC (Y/N): Date:

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3905-041	D								
IIN-D119-646	C								

100 0.00

100

DC

Doc.Control -USB or Paperwork

Memo

Photocopy bluefile & type labels per PPP D119-646-043
 CHG 004

0.00

N/A M/S SEP 09 2015

DQA:

Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed:

Date: 15/09/18.

Work Order update only ☐

Work Order: <u>135259</u> Part No. <u>D119-646-043</u> NCR No. <u>15-5337</u>	DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS						
		Skid-tube ☒ Machining ☐ Thermoforming ☐ Large Fab ☐	Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐	Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	Engineering ☒ Quality ☐ Other ☐			
Date: 15.08.13	Step #: 170	QTY Effective: ①		MRB (QS1042) Approval A.P.				
Description Work Order Deviation			Disposition					
SEE (AS-6) RELIEF FOR Ø INSERT IS 0.190" WAS 0.060" MAX. A.P.			ACCEPTABLE, ENGINEERING ERROR. CLEARANCE REQUIRED FOR NEW DS101-5 CREATE PAR FOR ISSUE PAR 15-447					
						Completed By 15-8-17		
						Lead hand / Supervisor Approval Verification 15-8-17		
						QC / QA Coordinator Approval DAS 9 9-89 1503-24		
Root Cause			FAULT CATEGORY					
Environment ☐ Design ☒ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ ☒ Drawing Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER: _____								

Work Order ID 135259

135259

Page 2

Friday, August 07, 2015 3:31:38 PM

Item ID: D119-646-043 Accept *N900040100* Setup Start *NS1*
Revision ID: U/R - URF15-560 Stop *NS2*
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool # Code	Plan	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

110

Skidtubes

Skidtubes

Memo

1- Bend FWD end of tube using Bender 1 and bend prog D3905 FWD per dwg D3905

2- Cut FWD end of tube as per dwg D3905.

3- Cut AFT end of tube as per dwg D3905.

4- Buff out marks left from bending

5- ~~Drill~~ ~~Aft~~ cap pilot hole using DT8149 ***DO NOT OPEN TO FINISHED SIZE***

6- ~~Place~~ ~~DT8149~~ in position and install drill Jig DT 9480 drill X-bolt spacer pilot holes using 3/16" drill first side only.

7- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.

8- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes using DT9 9480

9- ~~Spot drill holes to section G using #50 drill.~~ DT 9493

10- Drill FWD cap holes using DT8215.

11- Drill 1.87" and 3.74 holes using DT9494 locate from FWD cap hole. (verify measurement) as per dwg DEO D3905-B-1.

DT 10045
A+B

15-10-11

15-08-11

170

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

D119-646-043 B135259

- 1- Bend FWD end of tube using Bender 1 and bend prog D3905 FWD per dwg D3905
- 2- Cut FWD end of tube as per dwg D3905.
- 3- Cut AFT end of tube as per dwg D3905.
- 4- Buff out marks left from bending
- 5 -Install drill Jig DT9480 drill X-bolt spacer pilot holes using 3/16" drill first side only.
- 6- 2nd side, locating from first saddle holes use DT9861 A/B to drill 2nd side fwd saddle holes.
- 7- 2nd side locating from fwd saddle drill remaining crossbolt spacer holes usin DT9480
- 8- ~~Spot drill holes to section G using DT9493.~~
- 9- Drill FWD cap holes using DT8215.

15-10-11

Work Order ID 135259

Friday, August 07, 2015 3:31:38 PM

135259

Page 3

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: U/R - URF15-560 Stop ***NS2***
 Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
 Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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12- Drill Tow ring hole using DT9494. Open to finished size.

13- Open FWD & AFT cap holes per dwg.

14- Deburr

say 170

120 Chemical Conversion Coat per QSI005 4.1 0.00

120 HandFinish Memo 0.00

Hand Finishing

15-8-12

130 QC3- Inspect Part Finish 0.00

130 QC Memo 0.00

Quality Control

[Signature]

QC7

1 15-08-12

DAS
18
9-09

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 135259

135259

Page 4

Friday, August 07, 2015 3:31:38 PM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	DAS 18 9-89
140	QC5- Inspect part completeness to step on W/O	0.00								
140										
QC	Memo	0.00								
Quality Control										
150		0.00								
150										
Skidtubes	Memo	0.00								
Skidtubes	1-Open crossbolt spacer holes to finished size ***DO NOT OPEN SPOT DRILLED HOLES IN SECTION G*** 2-Deburr crossbolt spacer holes as per Dwg D3905 and blow out chips from inside the tube									
160	QC5- Inspect part completeness to step on W/O	0.00								
160										
QC	Memo	0.00								
Quality Control										

DD 15-8-12

[Signature]

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

D119-646-043 B 135259

1-Bond web in place as per Dwg D3905 & QSI 015.

A/R Sikaflex-291 132705

Sikaflex expire date: 16-2-12

Start: 15-8-12 Time: 10 AM

Finish: _____ Time: _____

***** (Adhere for 12 hours) *****

2--Bend AFT end of tube using CNC Bender 1 and bend prog. D3905 AFT as per dwg D3905. Install drop pins in crossbolt spacer holes to maintain web position.

→ Drill Weaplate holes using DT 9613 + 9545 open to $\phi 29$

3- Drill 1.87" and 3.74 holes using DT10045 A&B locate from FWD saddle hole. (verify measurement) as per dwg.

4- Drill Tow ring hole using DT9494. Open to finished size.

5- Open FWD & AFT cap holes per dwg.

6- Open crossbolt spacer holes to finished size *** ~~DO NOT OPEN SPOT DRILLED HOLES IN SECTION G~~ ***

7- Deburr crossbolt spacer holes as per Dwg D3905 and blow out chips from inside the tube

8- Deburr

9- Buff out marks left from bending.

10- Open holes of section G using DT9493 open to finished size.

*****VERIFY DIMENSIONS*****

DP 15-8-12

DP

58-13

Work Order ID 135259

135259

Page 5

Friday, August 07, 2015 3:31:38 PM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: U/R - URF15-560 Stop ***NS2***
 Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
 Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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170

170

Skidtubes

Skidtubes

Memo

0.00

1-Bond web in place as per Dwg D3905 & QSI 015.

A/R Sikaflex-291 132-05

Sikaflex expire date: 10-2-12

Start: _____ Time: 10 AM

Finish: _____ Time: _____

***** (Adhere for 12 hours) *****

2--Bend AFT end of tube using CNC Bender 1 and bend prog. D3905 AFT as per dwg D3905. Install drop pins in crossbolt spacer holes to maintain web position.

3- Buff out marks left from bending.

4- Open holes of section G (spot drilled holes) to finished size.

*****VERIFY DIMENSIONS*****

5- Countersink crossbolt spacer holes, and prepare tube for welding, deburr.

180

180

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

DAS
18
9-89

1 0 15-08-13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 135259***135259***

Page 6

Friday, August 07, 2015 3:31:38 PM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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190

0.00

100

Skidtubes

Memo

0.00

NOTE: TACK IN 2 MOST FWD X-BOLT SPACERS AND TEST FIT FWD
GROUND HANDLING FIXTURE, IF FIXTURE FITS WELL THEN
PROCEED. FIXTURE DT10091.

1-Insert crossbolt spacers. Weld as per QSI 004 and Dwg D3905. Remember to
back drill each hole before welding the other side. Use aluminum rod
A/R Aluminum Rod M131562

2-Grind cross bolt welds flush as per Dwg D3905. Ensure no pin hole.

3-Counterbore 5/16" x 0.750" deep as per Dwg D3905.

4- Debur & Scribe batch # on Aft end of tube.

200

QC5- Inspect part completeness to step on W/O

0.00

200

QC

Quality Control

Memo

0.00

TEST FIT USING FIXTURE DT10091.

8E15-08-13

15-8-13

DAS
38
9-89

AUG 18 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 135259

Friday, August 07, 2015 3:31:38 PM

135259

Page 7

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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210	QC10- Inspect visual per QSI004- ground welds	0.00							DAS 38 9-89
210									
QC	Memo	0.00							

Quality Control

AUG 18 2015

220	Pressure Wash per QSI005 4.3	0.00							
220									
HandFinish	Memo	0.00							

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

230		0.00							DAS 41 9-89
230									
SprayPaint	Memo	0.00							

Spray Painting

PRIME AS PER DWG AND QSI 005 4.2
BATCH: 130992

PAINT WHITE AS PER DWG AND QSI 005 4.2
BATCH: 132664

SEE ATTACHED ~~REAR~~ FINISHING
DEVIATION - NO PAINT ON
SADDLES A.P.
15.08.10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER :			
Misidentified ☐	☐	Past Due	☐				

Work Order ID 135259

Friday, August 07, 2015 3:31:38 PM

135259

Page 8

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC14- Inspect Spray Paint	0.00							
240									
QC	Memo	0.00							
Quality Control									
250		0.00							
250									
HandFinish	Memo	0.00							
Hand Finishing	1-Install inserts as per Dwg D3905.								
260	QC5- Inspect part completeness to step on W/O	0.00							
260									
QC	Memo	0.00							
Quality Control									

DAS
15
9-00

333

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 135259

135259

Page 9

Friday, August 07, 2015 3:31:38 PM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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270

0.00

270

HandFinish

Hand Finishing

Memo

0.00

1-Install wearpads, gaskets and wearplates as per Dwg D3905. Put sikaflex in
insert before installing bolts and washers
A/RSikaflex-240/-291 16132705
Sikaflex expire date: 16102

2-assemble o'ring to plug as per dwg D3492 and apply o'ring lube
A/R 55-o'ring lube batch: 16131349

3 -Inspect for foreign objects as per QSI 024

4 -Install Aft Cap and seal with Sikaflex. Clean excess adhesive.
A/RSikaflex-240/-291 16132705
Sikaflex expire date: 16102

5- Install D5101-041 as per dwg by using DT10117

280

QC5- Inspect part completeness to step on W/O

0.00

280

QC

Quality Control

Memo

0.00

DAS
38
9-89

SEP 02 2015

**INSTALL AN3CYA BOLTS
IN UNUSED WEARPLATE
HOLES**

**A.P.
15.08.10
NOT REQUIRED**

**Pto →
Back of P. 12**

RTU 598 M131311 16/11

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>135239</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS					
Part No. <u>D119-646-043</u>		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. _____		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
	Large Fab ☐	Composite ☐	Supplier ☐				

Date: <u>15.08.10</u>	Step #: _____	QTY Effective: _____	MRB (QSI042) Approval <u>A.P.</u> <u>15.08.10</u>
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Description Work Order Deviation <u>USE AN3CYA BOLTS IN UNUSED WEARPLATE HOLES</u> <u>NOT REQUIRED</u>	Disposition <u>ACCEPTABLE</u>	Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval
---	---	---

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐						
Misidentified ☐	Past Due ☐	OTHER: _____					

Work Order ID 135259

135259

Page 10

Friday, August 07, 2015 3:31:38 PM

Item ID: D119-646-043 Accept *N900040100* Setup Start *NS1*
 Revision ID: U/R - URF15-560 Stop *NS2*
 Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
 Start Date: 8/10/15 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 8/17/15 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
285	Wing Walk as per dwg OSI005 4.4 Batch	11132500				1k	d	21	15/09/16
285	HandFinish	0.00							
Hand Finishing	Memo								
286	QC3- Inspect Part Finish	0.00				1			DAS 38 9-89
286	QC	0.00							
Quality Control	Memo								SEP 02 2015
290	Identify as per dwg & Stock Location:	0.00				1X			DAS 36 9-89
290	Packaging	0.00							15/09/13
Packaging	Memo								

W/O
135258

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 135259***135259***

Page 11

Friday, August 07, 2015 3:31:38 PM

Item ID: D119-646-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: U/R - URF15-560 Stop ***NS2***
Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH
Start Date: 8/10/15 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 8/17/15 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

300

QC21- Final Inspection - Work Order Release

0.00

300

QC

Memo

0.00

Quality Control

SEP 08 2015

20150908
S

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

Friday, August 07, 2015 3:31:43 PM

Page 1

Work Order ID: 135259

135259

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC IPP revB
10.02.22 per PAR 09-043 EC verified by:DD IPP REVC 12.11.05
(DEOD3905-B-1)(ecn 12-675) DD verf:JLM IPP REV:D 13.03.20 per
chg003 ECN13-534 DD verf:JLM
IPP REV:E 15.01.19 AS PER ECN-14-628 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN4C46A		Purchased		No		270	Each	345.0000	3	3			
AN4C46A									**			all 15/08/21	
Bolt													

Location	Loc Qty	Loc Code
FG	8	
123642	2	
m132169	6	
ST312A	310	
m129431	100	
m131856	70	
m132381	70	
m132522	70	
ST341	27	
131651	27	

D5101-041

Manufactured No

270

Each

39.0000

3

3

D5101-041

Crossbolt Spacer Assembly

all 15/08/21

Location	Loc Qty	Loc Code
ST149	29	
128587	29	
ST155a	10	
130727	10	

* 13136070 x3

DQA:

Date: 15/09/28



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed

Date: 15/09/21

Work Order update only

Work Order: 135259		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. D119-646-043		Rework ☒		Skid-tube ☐	Cross tube ☒	Water Jet ☐	Engineering ☒		
NCR No. 15-5342		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date: 15.08.26		Step #: 270		QTY Effective: ①			MRB (QSI042) Approval		
							A.P.		
Description Work Order Deviation				Disposition				15.08.26	
DS101-041 CROSSBOLT SPACER ASSY DOES NOT FIT IN AFT BEND REGION				ACCEPTABLE TO RELIEVE CROSSBOLT SPACER TO ALLOW FOR FIT PER DSI 9685 ATTACHED.				Completed By	
				9685 - ACCEPTABLE TO OPEN Ø 0.437 AFT FLOAT HOLES TO MAX Ø 0.445 +0.000, -0.008 TO ALLOW FOR ALIGNMENT				Lead hand / Supervisor Approval Verification	
				Touch up Alodine + Paint as per 032225				DAS 9 9-89 15-09-16	
								QC / QA Coordinator Approval	
								5/10/26	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☒	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☒	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Picklist Print

Page 2

Friday, August 07, 2015 3:31:43 PM

Work Order ID: 135259

135259

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

D5101-3 Manufactured No

270- Each

Start Qty: 1.00
64.0000 6 6

Required Qty: 1.00

D5101-3

Insert

**

all 15/08/24

Location

Loc Qty

Loc Code

ST147

64

127964

64

X6

D5101-5 Manufactured No

270 Each

64.0000 6 6

D5101-5

Insert

**

all 15/08/24

Location

Loc Qty

Loc Code

ST147

64

127965

64

X3

MS21043-4 Purchased No

270 Each

754.0000 3 3

MS21043-4

Nut

**

all 15/08/24

Location

Loc Qty

Loc Code

FG

40

104603

40

GA

193

m128798

193

ST273A

300

m132803

300

ST304

221

m128818

39

m131697

9

m132382

4

m132536

169

X3

Friday, August 07, 2015 3:31:43 PM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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OTHER : ☐																					

Picklist Print

Page 3

Friday, August 07, 2015 3:31:43 PM

Work Order ID: 135259

135259

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

D2500-1-190

Manufactured No

110

Each

10.0000

Start Qty: 1.00

Required Qty: 1.00

D2500-1-190

Ext'n - 'I' Beam Tube 4"

Location

Loc Qty

Loc Code

LG002

10

120085

10

Each

135.0000

**

D2579

Manufactured No

D2579

Crossbolt Spacer

Location

Loc Qty

Loc Code

LG001

135

113785

24

123997

111

Each

5.0000

**

D2855-3

Manufactured No

D2855-3

Cap

Location

Loc Qty

Loc Code

FP001

5

127596

5

Each

53.0000

**

D3492-5

Manufactured No

D3492-5

Plug

Location

Loc Qty

Loc Code

FP

2

133396

2

FP001

51

120153

15

433900

36

**

Friday, August 07, 2015 3:31:44 PM

Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

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Picklist Print

Page 4

Friday, August 07, 2015 3:31:44 PM

Work Order ID: 135259

135259

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

NAS1611-005

Purchased

No

270

Each

186.0000

16

Start Qty: 1.00

16 1/4

Required Qty: 1.00

NAS1611-005

O-RING

**

all 15/08/20

Location

Loc Qty

Loc Code

FP001

186

M 133077

m129198

75

m129384

111

D3672-1

Manufactured

No

270

Each

902.0000

2

**

2

all 15/08/20

D3672-1

Washer, Phenolic

Location

Loc Qty

Loc Code

FG

10

85222

10

FP001

106

113581

106

ST049

783

112218

72

127322

211

134785

500

ST055

3

120116

3

D3681-1

Manufactured

No

190

Each

26.0000

8

8

**

all 15-08-13

D3681-1

Spacer

Location

Loc Qty

Loc Code

LG001

28

132711

1

133987

25

7

Friday, August 07, 2015 3:31:44 PM

Shop Packet Print

Page 4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Work Order ID: 135259

135259

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

D3847-1 Manufactured No 270 Each 6.0000 Start Qty: 1.00 8 8

D3847-1

Wearpad

**

15/09/10

Location

Loc Qty

Loc Code

FP001

6

3133966

x2

133462

6

x6

D3847-11 Manufactured No 270 Each 8.0000 1 1

D3847-11

Wearpad

**

15/08/20

Location

Loc Qty

Loc Code

FP001

8

x1

112558

8

D3885-3 Manufactured No 170 Each 6.0000 1 1

D3885-3

Standard Web

**

15-8-12

Location

Loc Qty

Loc Code

LG002

6

1

99134

6

D3903-1 Manufactured No 190 Each 18.0000 12 12

D3903-1

Spacer

**

BE 15-08-13

Location

Loc Qty

Loc Code

LG

3

3

132881

3

LG001

15

9

124312

3

433953

12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY						
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER :						
Misidentified ☐	☐	Past Due	☐							

Picklist Print

Page 6

Friday, August 07, 2015 3:31:45 PM

Work Order ID: 135259

135259

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

D3672-3

Manufactured No

Each

599.0000

Start Qty: 1.00

12

Required Qty: 1.00

D3672-3

Washer, Phenolic

Location

Loc Qty

Loc Code

FG	100	
133083	100	
FP001	263	
132639	263	
ST049	221	
134449	221	
ST055	15	
129916	15	

250

Each

231.0000

12

12

D3683-3

Purchased No

D3683-3

Insert

Location

Loc Qty

Loc Code

FP001	34	
47805	34	
ST051	197	
47805	197	

250

Each

601.0000

42

42

ALS4-1032-130

AELS4-1032-130 Purchased No

ALS4-1032-130

Rivnut

Location

Loc Qty

Loc Code

st549	601	
M132317	601	

X4Z

all 15/08/21

Friday, August 07, 2015 3:31:45 PM

Shop Packet Print

Page 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____			

Picklist Print

Page 7

Friday, August 07, 2015 3:31:45 PM

Work Order ID: 135259

135259

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

AN3C5A

Purchased

No

270

Each

361.0000

44

44

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Bolt

**

ell 15/08/2015

Location

Loc Qty

Loc Code

FG

5

122800

5

ST338a

356

M131803

8

M132640

348

X44

NAS1149C0332R

Purchased

No

Each

3,005.000

44

NAS1149C0332R

WASHER

**

ell 15/08/2015

Location

Loc Qty

Loc Code

FP001

2140

m130325

2140

GA

221

m131618

221

ST271

644

m129390

72

m132262

572

X44

NAS1149C0463R

Purchased

No

Each

257.0000

12

NAS1149C0463R

Washer

**

only 30 in stock

Location

Loc Qty

Loc Code

FP001

77

m127306

77

ST271

180

m128401

180

Not reg'd N/A GP 15/8/15

Friday, August 07, 2015 3:31:45 PM

Shop Packet Print

Page 7

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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Picklist Print

Page 8

Friday, August 07, 2015 3:31:45 PM

Work Order ID: 135259

135259

Parent Item: D119-646-043

D119-646-043

Parent Item Name: Repl. Skidtube with Wearpads, DART (Apical) Tri-Bag Float Compatible, Fits LH/RH

Start Date: 8/10/15

Required Date: 8/17/15

MS27039C4-08

Purchased

No

270

Each

264.0000

12

12

Start Qty: 1.00

Required Qty: 1.00

MS27039C4-08

SCREW

*Not reg'd
N/A Risk/9*

Location

Loc Qty

Loc Code

FP001

20

m126319

20

ST282

244

m126319

144

m128429

100

MS24694-C52

Purchased

No

Each

71.0000

2

MS24694-C52

SCREW

all 1510812

Location

Loc Qty

Loc Code

FP001

25

m127059

25

ST287

46

124308

46

x 2

*DAS 10 3847-043 x 2 B 126902 ✓
3847-045 x 2 B 135907 ✓
3847-044 x 2 B 135907 ✓*

*↑
MISSING PARTS ON
PICK LIST*

A.P. 15.08.24

+ NAS 149 D0416 J WASHER x 6 (m131511) Batch all by Gary

Friday, August 07, 2015 3:31:45 PM

Shop Packet Print

Page 8

DQA: _____ Date: _____

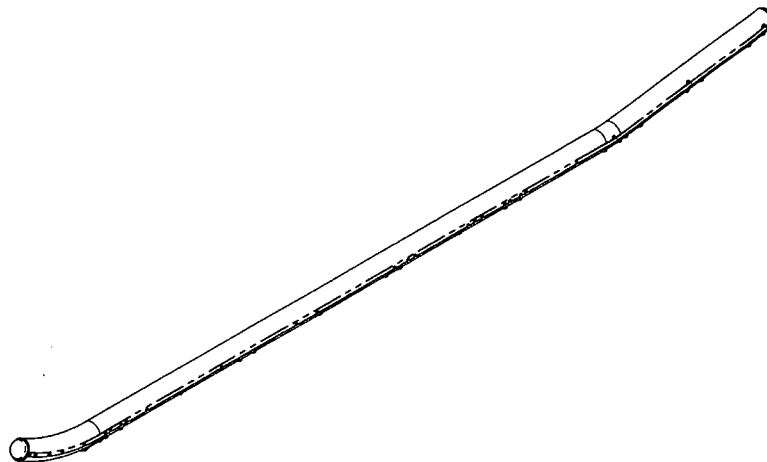


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
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Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					



D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD (SHOWN)
D3905-043 FLOAT SKIDTUBE ASSY WITH WEARPLATE (SIMILAR)
D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE (SIMILAR)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3885-3 FLOAT WEB
PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3905-041 = 35.4 lbs
D3905-043 = 42.8 lbs
D3905-045 = 48.0 lbs
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 8.5 INCHES
ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT
PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT
PORTION OF THE TUBE.
- 10) INSERT D3885-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE
WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP
- 11) INSERT D3492-045 PLUG ASSY INTO Ø0.197 HOLES (BOTH SIDES OF TUBE)
- 12) USE DART DRILL TEMPLATE D78932 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARPLATE INSERTS.
INSTALL AELS-1032-130 INTO D3905-11 ONLY. INSTALL AN3C5A BOLTS AND NAS1149C0332R WASHERS
WITH SIKAFLEX-241/-291.

ITEM	QTY -041	QTY -043	QTY -045	P/N	DESCRIPTION
1	X			D3905-041	FLOAT SKIDTUBE ASSY WITH WEARPAD
2		X		D3905-043	FLOAT SKIDTUBE ASSY WITH WEARPLATE
3			X	D3905-045	FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE
10	2	2	2	D2579	CROSS BOLT SPACER
11	2	2	2	D2855-3	CAP
12			16	D3411-3	WASHER
13	16	16		D3492-045	PLUG ASSY
14	2	2	2	D3672-1	PHENOLIC WASHER
15	8	8	8	D3681-1	SPACER
16	8	8	1	D3847-1	WEARPAD
17	1	1	1	D3847-11	WEARPAD
18		1		D3847-043	FWD WEARPLATE ASSY
19		1		D3847-045	CENTER WEARPLATE ASSY
20		1		D3847-049	AFT WEARPLATE ASSY
21			1	D3849-045	AFT WEARPLATE ASSY
22			1	D3849-047	FWD WEARPLATE ASSY
23	1	1	1	D3885-3	FLOAT WEB
24	12	12	12	D3903-1	SPACER
25			16	D3904-1	WASHER
26	1	1		D3905-11	FLOAT SKIDTUBE
27			1	D3905-13	FLOAT SKIDTUBE
28	6	6	6	D5101-3	INSERT
29	6	6	6	D5101-5	INSERT
30	3	3	3	D5101-041	CROSSBOLT SPACER ASSY
41	42	42	10	ALS4-1032-130	INSERT
42	44	44	12	AN3C5A	BOLT
43			4	AN3C46A	BOLT
44			4	AN3C50A	BOLT
45	3	3	3	AN4C46A	BOLT
46	44	44	8	NAS1149C0332R	WASHER (OR AN960C10L)
47	12	12	12	NAS1149C0463R	WASHER (OR AN960C416)
48	6	6	6	NAS1149D0416J	WASHER
49			8	MS21043-3	NUT
50	3	3	3	MS21043-4	NUT
51	2	2	2	MS24694-C52	SCREW

UNDER REVIEW

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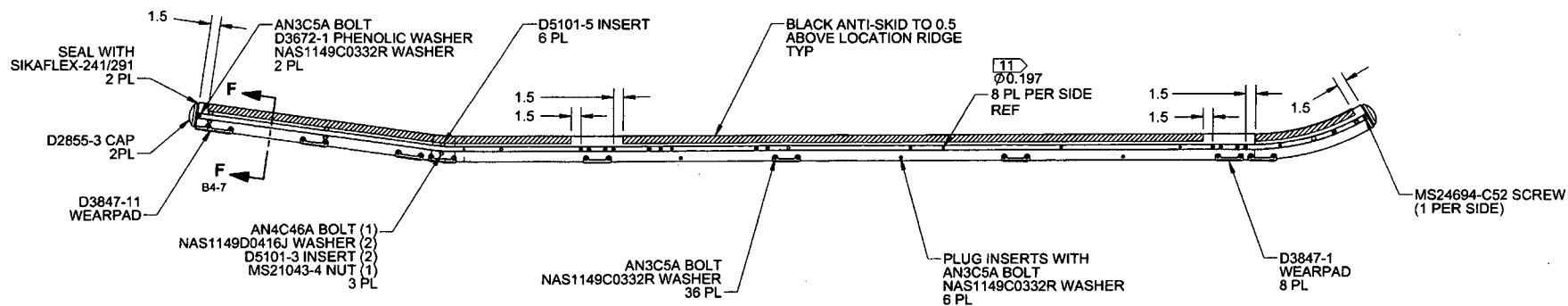
2014 NOV 24

ECN 14-026

D	REVISED DIMENSIONS AND PROVIDED TOLERANCE TO SKIDTUBE OVERALL LENGTH PAGE 5-6 REVISED NOTE 2 AND NOTE 7 PAGE 1 (ZN B8, ZN A8-1) REVISED -041/043/045 DRAWING VIEWS, REVISED SECTION VIEW F-F (ZN B4-7), REVISED BOM REF. PARTS-299 AND PARTS-272	AK	14.08.08
C	(SHT 1 P/L, ZN C2-2, C2-3, C2-4) ITEM 13, QTY 2 WAS 4, ITEM 42 AND 45, QTY 44 WAS 46, ADD ITEM 49, MS24694-C52 WAS AN3C5A, D3672-1 AND NAS1149C0332R (ZN C7-7) Ø0.201 CSK Ø0.395 X 100" WAS Ø0.204 THRU (ZN A4-5, A4-6) ADD RELIEF INSTRUCTION, ADD ITEM 10, CROSS BOLT SPACER (ZN D4-1, C8-7, D8-7)	DB	13.02.21
B	REVISED PART LIST: ALS4-1032-130 WAS AELS-1032-130 (ZN A6-5, A5-6, C5-7, C3-7, A5-7); ADD DT8932 (ZN A8-1); D2855-3 WAS D2575 (ZN C8-2, C1-2, C8-3, C1-3, C8-4, C1-4); AN3C5A WAS AN3C4A (ZN C7-2, C1-2, C7-3, C1-3, C7-4, C1-4); D3849-047 WAS D3849-041 (ZN B3-4); ADD D3411-3 (ZN B3-4); ADD AN3C50A (ZN B3-4); Ø0.313 WAS Ø0.328 (B2-5, B2-6, C2-7, A8-7 & D7-8), REVISED NOTE IV (ZN A8-7)	RF	09.06.30
D	NEW ISSUE	RF	09.03.30
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15-8-7
135289



D3905-041 FLOAT SKIDTUBE ASSY WITH WEARPAD
(MAKE FROM D3905-11 SKIDTUBE)

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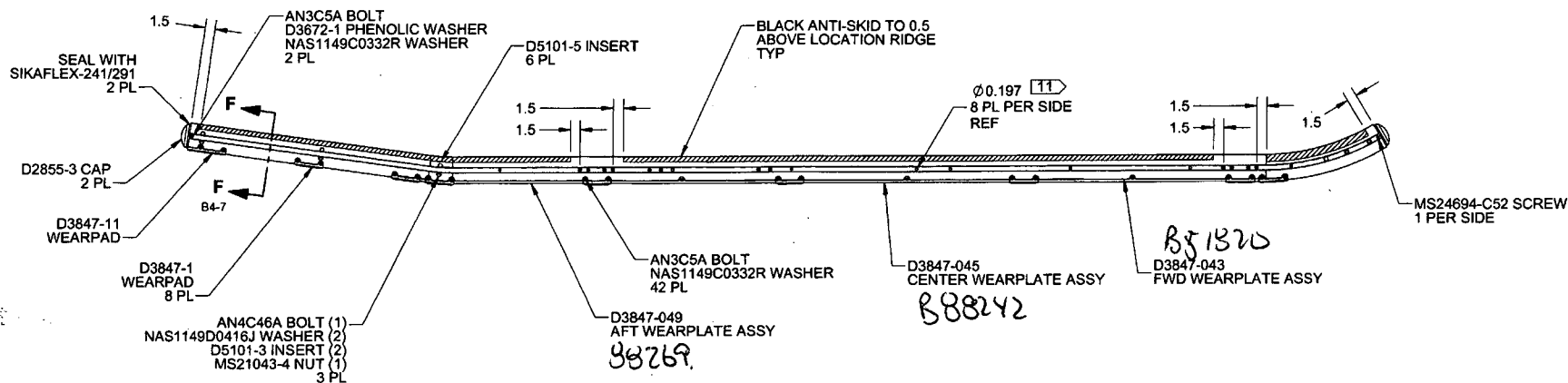
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D3905-043 FLOAT SKIDTUBE ASSY WITH WEARPLATE
(MAKE FROM D3905-11 SKIDTUBE)

UNDER REVIEW

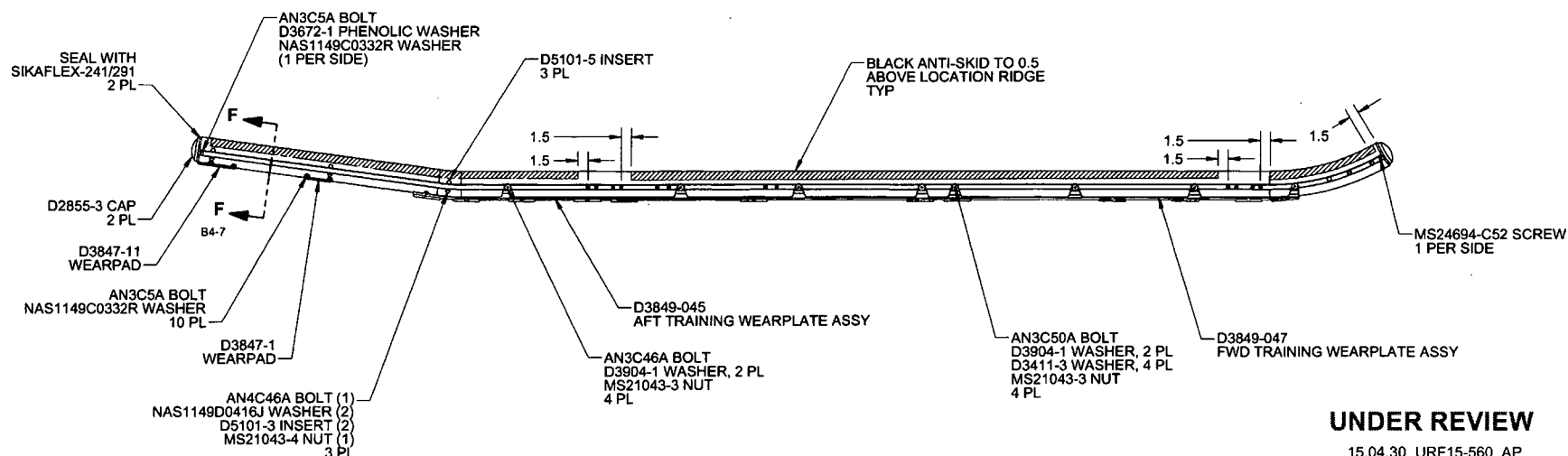
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D3905-045 FLOAT SKIDTUBE ASSY WITH TRAINING WEARPLATE
(MAKE FROM D3905-13 SKIDTUBE)

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2014 NOV 24 *q*

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8 7 6 5 4 3 2 1

D

C

B

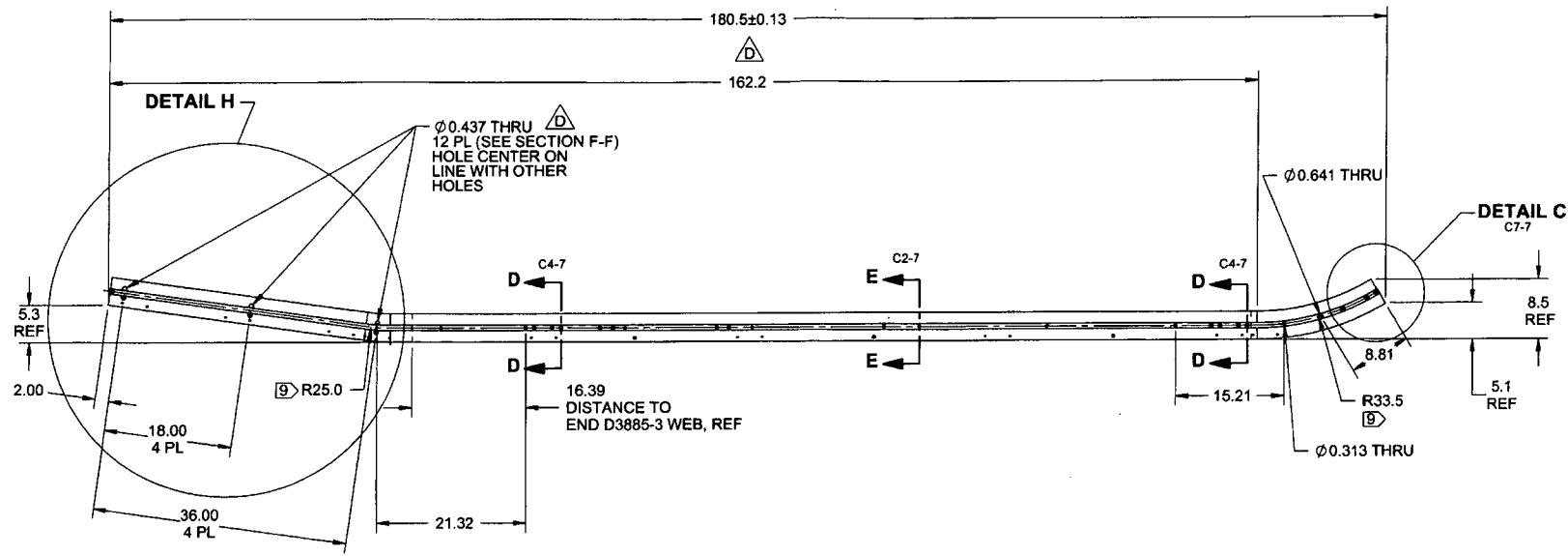
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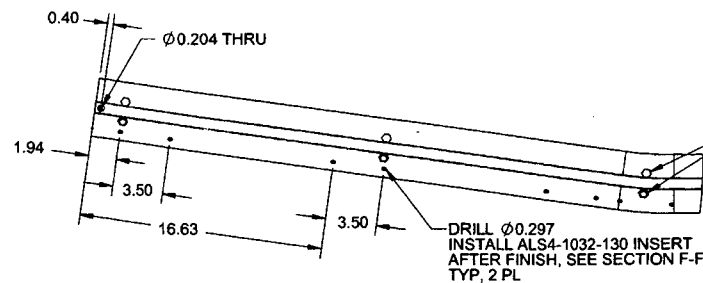
D3905-11 FLOAT SKIDTUBE
(MAKE FROM D3905-1 TUBE)

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DETAIL H
SCALE 2X

RELIEVE RIDGE FLUSH WITH SKIDTUBE
FOR INSERT CLEARANCE
MAX 0.060 INTO THE RIDGE

DRILL Ø0.297
INSTALL ALS4-1032-130 INSERT
AFTER FINISH, SEE SECTION F-F
TYP, 2 PL

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8 7 6 5 4 3 2 1

DETAIL G

Ø0.437 THRU
12 PL (SEE SECTION F-F)
HOLE CENTER ON
LINE WITH OTHER
HOLES

Ø0.641 THRU
C7-7
DETAIL C

5.3
REF

2.00

18.00
4 PL

R25.0

C4-7

D

D

16.39
DISTANCE TO
END D3885-3 WEB, REF

21.32

C2-7

E

E

C4-7

D

D

15.21

R33.5

Ø0.313 THRU

8.4
REF

8.81

5.1
REF

D3905-13 FLOAT SKIDTUBE
(MAKE FROM D3905-1 TUBE)

RELIEVE RIDGE FLUSH WITH SKIDTUBE
FOR INSERT CLEARANCE
MAX 0.060 INTO THE RIDGE

DRILL Ø0.297
INSTALL ALS4-1032-130 INSERT
AFTER FINISH, SEE SECTION F-F
TYP, 2 PL

0.40

Ø0.204 THRU

1.94

3.50

3.50

16.63

DETAIL G
SCALE 2X

UNDER REVIEW

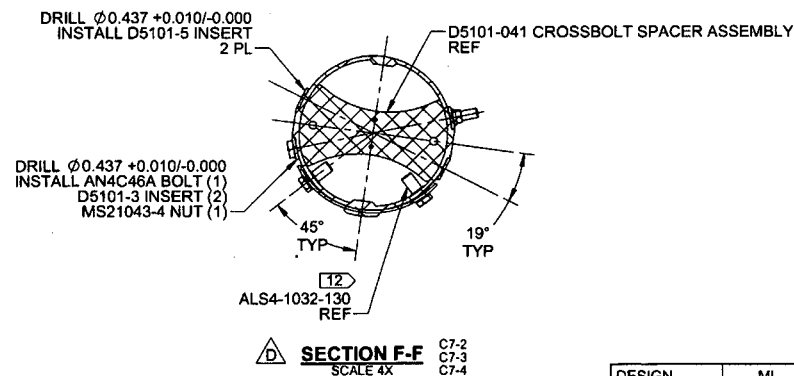
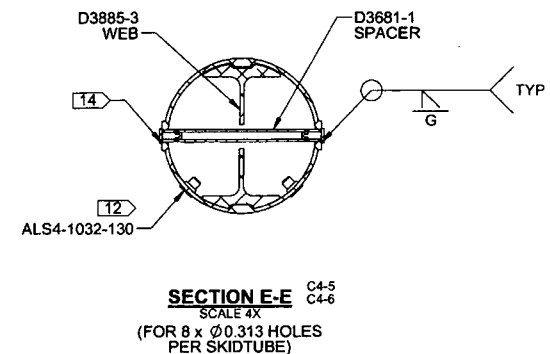
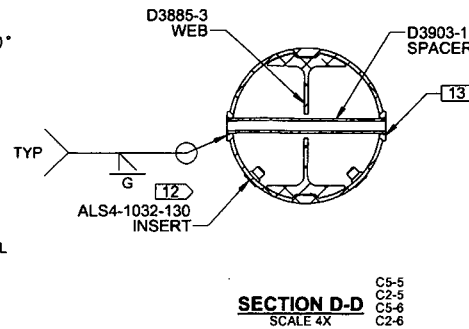
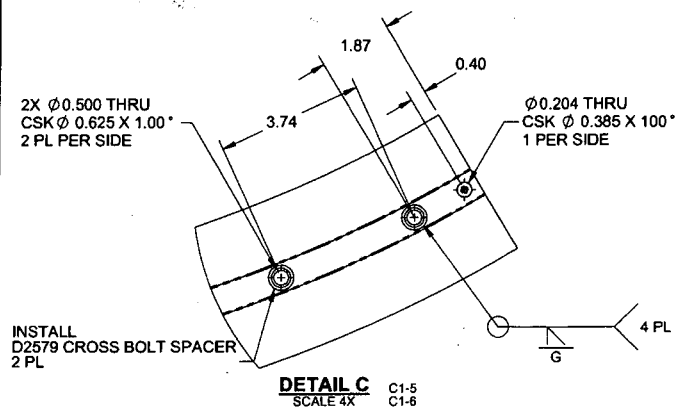
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- NOTES:**
- 13) AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
- CHAMFER HOLES Ø0.475 x 45° (BOTH SIDES)
 - INSERT D3903-1 SPACER
 - WELD INTO PLACE AND GRIND FLUSH
 - C-BORE TO 0.313 x 0.75 DEEP
 - DEBURR HOLES
- 14) AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.313 HOLES ONLY:
- CHAMFER HOLES Ø0.354 x 45° OR 0.050 DEEP x 45° (BOTH SIDES)
 - INSERT D3681-1 SPACER
 - WELD INTO PLACE AND GRIND FLUSH
 - DEBURR HOLES

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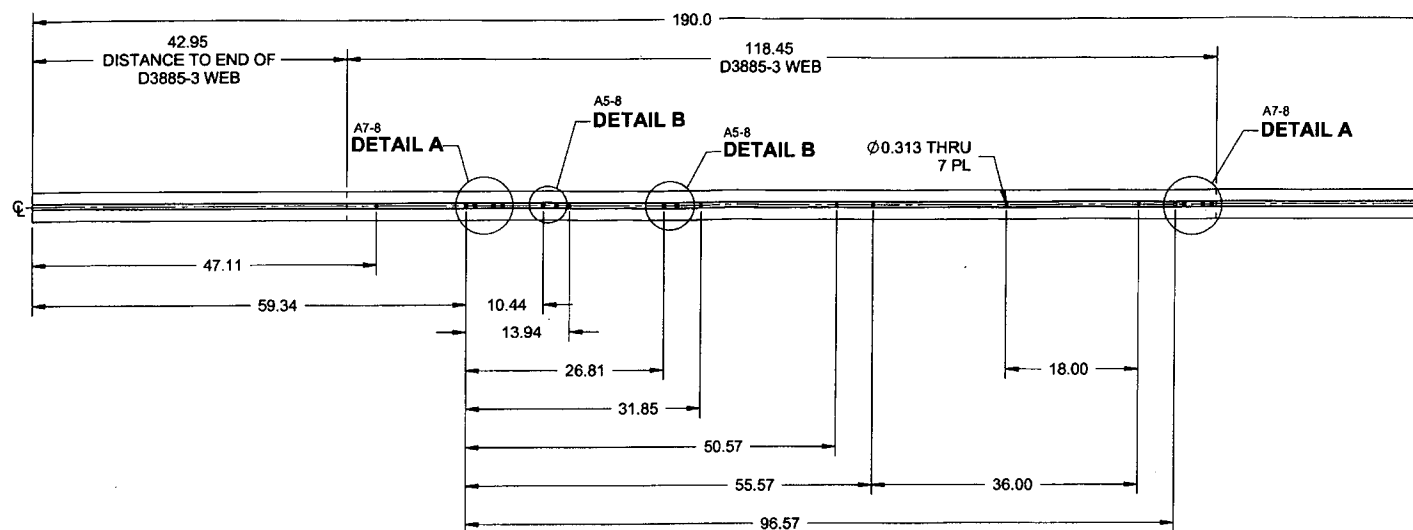
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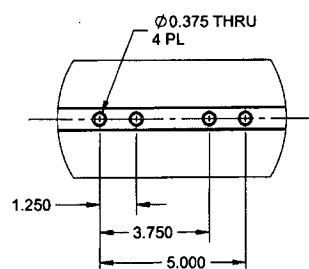
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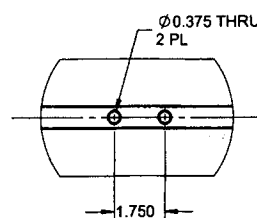
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D3905-1 TUBE
(MAKE FROM D2500-1-190 EXTRUSION)



DETAIL A
SCALE 4X
D6-8
D2-8



DETAIL B
SCALE 4X
D5-8
D4-8

UNDER REVIEW

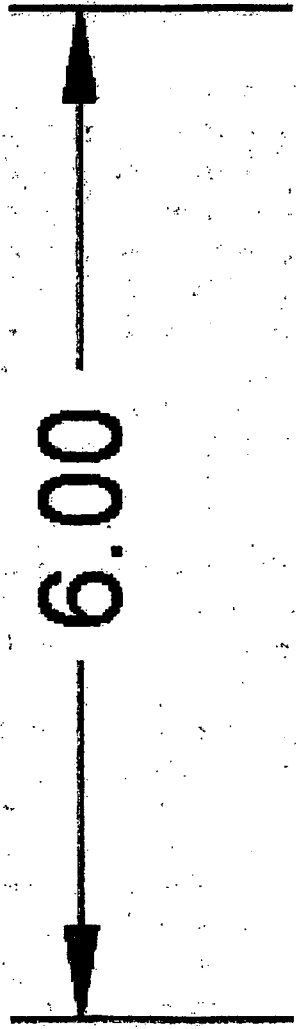
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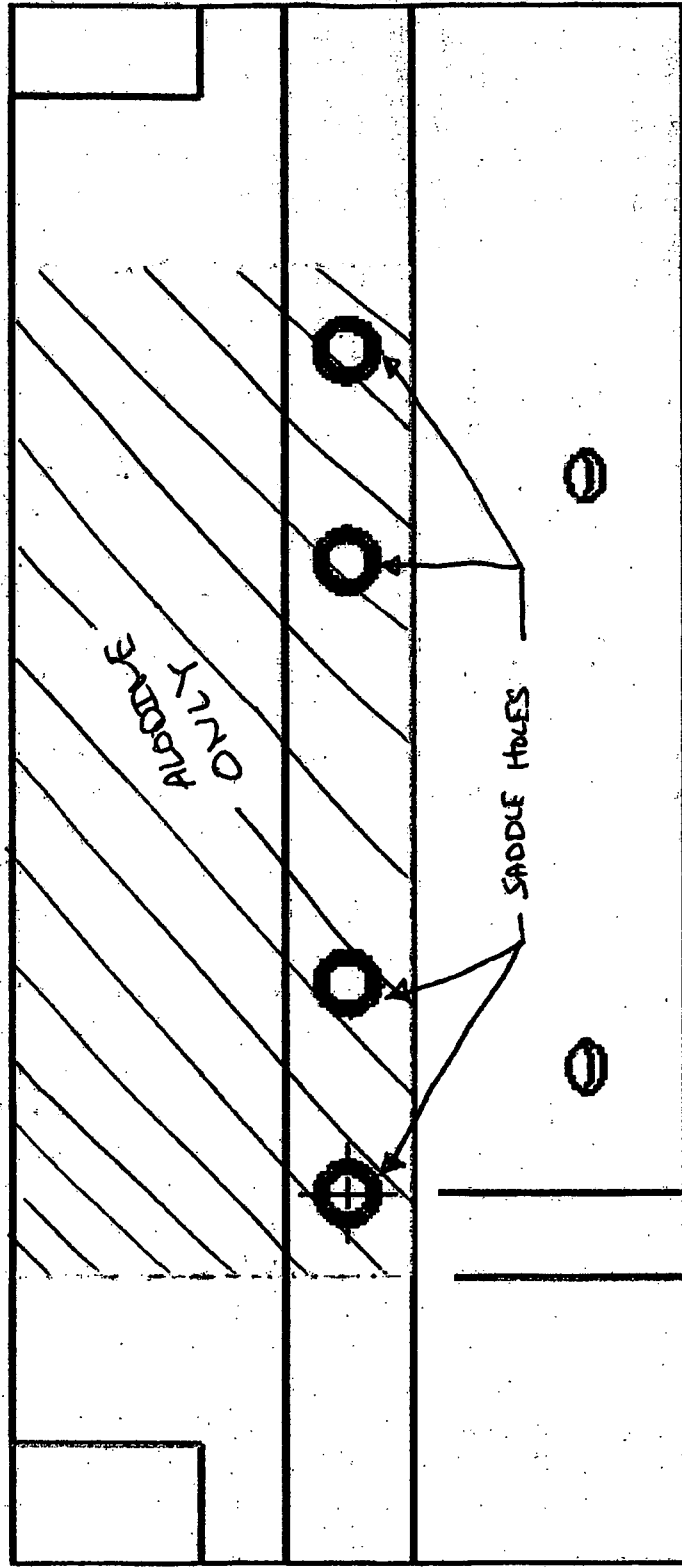
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A.P.
15.03.29



DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-646 REV. B
AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-646 REV. 1
REF FAA STC: SR02024SE
REF EASA STC: 10040294

1.0 PURPOSE:

Customers may have experienced spinning inserts on Dart D119-646-013/-014/-113/-114/-213/-214 float skid tubes. This DSI provides a repair for those spinning inserts.

2.0 INSTALLATION:

- 2.1 Remove AN4C6A Bolts securing the 604.0902 Float to the RH skid tube
- 2.2 Remove the 12 inserts from the skidtube extension.
- 2.3 Open the insert holes (12x) to 0.437" +0.010/-0.000. Deburr and alodine hole per MIL-DTL-5541
- 2.4 Remove AN3 bolts securing the D2855-3 Cap to the skidtube. Break/remove sealant between cap and skidtube and remove cap. Clean off residual sealant and inspect for corrosion damage per Dart ICA-D119-646 Chapter 5.
- 2.5 Using locally procured 1/4-20 UNC threaded rod attached to the D5101-041 Crossbolt Spacer, slide it into the skidtube.
- 2.6 Align the holes in the D5101-041 Crossbolt Spacer with the newly drilled holes in the skidtube. Some adjustment of the size of the spacer is permitted to fit it to the deepest set of holes.
- 2.7 Using the D5101-3 and D5101-5 inserts, secure the D5101-041 Crossbolt Spacer to the skidtube. Reference Figure 1. Remove the threaded rod. Torque inserts to 95-110 in.lbs (10-12 N-m).
- 2.8 Repeat steps 2.4-2.7 for the other 2 crossbolt spacer locations.
- 2.9 Reinstall D2855-3 Cap with AN3 bolts. Seal bolts with Sikaflex-241/-291 or Proseal 890 or MIL-S-8802 Class 'B2' sealant. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m). Apply a bead of Sikaflex -241/-291 or Proseal 890 or MIL-S-8802 sealant between the cap and the skidtube.
- 2.10 Reinstall the 604.0902 Float onto the skidtube using 3x AN4C46A Bolts per Figure 1.
- 2.11 Repeat steps 2.1-2.10 for the LH skidtube.

3.0 PARTS LIST:

Qty. -011	PART NUMBER	DESCRIPTION
X	DSI 9685-011	CROSSBOLT SPACER KIT
6	D5101-041	CROSSBOLT SPACER ASSEMBLY
12	D5101-3	INSERT
12	D5101-5	INSERT
6	AN4C46A	BOLT
6	MS21043-4	NUT
24	NAS11490D0416J	WASHER

4.0 WEIGHT AND BALANCE

Incorporating this DSI causes the following weight and balance changes

Installation	Weight	LONGITUDINAL		LATERAL	
		Arm	Moment	Arm	Moment
DSI 9685-011 CROSSBOLT SPACER KIT	1.5 lb 0.68 kg	208.0 in 5.3 m	312 in-lb 3.6 kg-m	0.0 in 0.0 m	0.0 in-lb 0.0 kg-m

A	NEW ISSUE	AK	14.07.30
REV.	DESCRIPTION	BY	DATE
DESIGN	AK	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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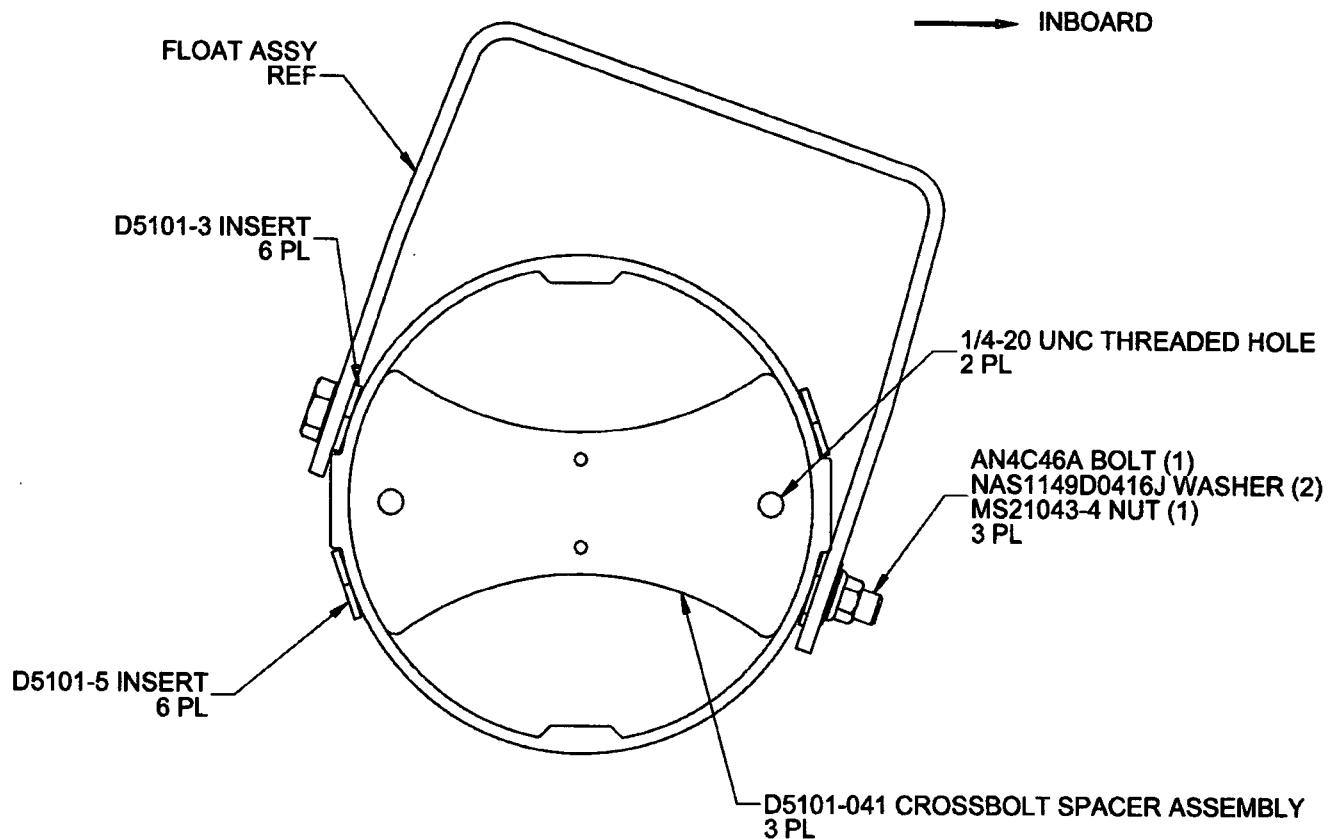


FIGURE 1: D5101-041 SPACER INSTALLATION

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